

WIDE ANGLE IMAGING SYSTEM

ABSTRACT OF THE INVENTION

A wide angle imaging system for providing a wide angle field of view of an area exteriorly of a vehicle comprises an outer negative or wide angle group of lenses for receiving
5 the wide angle field of view and directing a virtual image toward a positive, converging or focusing group of optics, which further refract and focus the image and provide a focused image to an image capture device. The focusing group of lenses preferably comprises three plastic optic elements, which include a diffractive element and aspheric surfaces to correct for color, distortion and other aberrations in the wide angle virtual image received from the wide angle
10 group of lenses. The wide angle group of lenses are also preferably formed of a plastic material, such as polycarbonate or acrylic, and include a diffractive element on one of the elements. The imaging system thus provides a low cost, light weight and compact wide angle focusing system which does not include expensive and fragile precision optic and/or glass elements.